

REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 1-6, 8 and 10 have been amended. Claims 7, 9 and 11-30 were cancelled without prejudice. No new claims have been added. Therefore, claims 1-6 and 8 and 10 are presented for examination. The following remarks are in response to the final Office Action, mailed May 22, 2006, and the advisory action, mailed August 1, 2006.

35 U.S.C. § 103 Rejections

Claims 1-5 stand rejected under 35 U.S.C. §103(a) as being anticipated over in view Hsieh, et al., U.S Patent No. 6,564,986, (“Hsieh”) in view of Stewart, U.S. Patent Publication No. 2003/0170450, (“Stewart”).

Claim 1, as amended, recites:

A method comprising:

applying a thermoplastic bonder to perimeters of a ball grid array (BGA) package, wherein the thermoplastic bonder is applied to the BGA package directly between a first surface and a second surface of the BGA package such that the thermoplastic bonder remains at the perimeters of the BGA package between the first surface and the second surface;

applying the thermoplastic bonder to solder balls of the BGA package, wherein the thermoplastic bonder is applied to the solder balls between the first surface of the BGA package and the solder balls, and between the second surface of the BGA package and the solder balls; and

attaching a printable circuit board (PCB) to the BGA package.
(emphasis added)

Applicants respectfully submit that Hsieh discloses “[a] *method for testing multiple IC packages* for solder joint fractures that occur in response to thermal cycling.” Hsieh discloses “pairs of the contact pads are linked by conductive traces (lines) to form a lower portion of a daisy chain . . . [and] using wire bonding to form an upper portion of the daisy chain. (Abstract; emphasis added)

Stewart discloses “[a] solid or semi-solid thermoplastic adhesive adhered to a surface mount electronic device, an assembly made of at least a printed circuit board, a surface mount electronic device, solder joints providing a connection between the printed circuit board and the device, and solid thermoplastic adhesive joints attached to the device and the board.” (Abstract; emphasis provided). In the sections referenced by the Examiner, Stewart discloses “the surface mounted electronic device may be first singulated followed by *mass applying the thermoplastic adhesive to each surface mounted electronic device . . . [it] is preferred to mass pre-apply the thermoplastic adhesive to the surface mount electronic devices . . . [to avoid] the step of applying the thermoplastic adhesive during network or repair.*” (para. 0081)

In contrast, claim 1, as amended, in pertinent part, recites “applying a thermoplastic bonder to perimeters of a ball grid array (BGA) package, wherein the thermoplastic bonder is applied to the BGA package directly between a first surface and a second surface of the BGA package such that the thermoplastic bonder remains at the perimeters of the BGA package between the first surface and the second surface . . . [and] the thermoplastic bonder is applied to the solder balls between the first surface of the BGA package and the solder balls, and between the second surface of the BGA package and the solder balls” (emphasis added). First, Stewart’s mass application of thermoplastic adhesive is to each surface mounted electronic device is not the same as applying the thermoplastic bonder to the perimeters of a BGA package such that the thermoplastic bonder remains at the perimeters. Second, Stewart does not teach or suggest the application of thermoplastic bonder to solder balls between the first surface of the BGA package and the solder balls and between the second surface of the BGA package and the solder balls as recited by claim 1.

Hsieh, like Stewart does not teach or reasonably suggest at least the above-referenced features of claim 1. Hence, Hsieh does not make up for the deficiencies of Stewart. Stewart and Hsieh, neither individually nor when combined, teach or reasonably suggest each and every element of claim 1. Accordingly, Applicants request the withdrawal of the rejection of claim 1 and its dependent claims.

Claims 6 and 8-10 stand rejected under 35 U.S.C. §103(a) as being anticipated over in view Hsieh in view of Stewart as Applied to claims 1 and 11 above, and further in view of Austin, et al., U.S Patent No. 6,284,173, “(Austin”).

Claims 6, 8 and 10 depend from claim 1 and thus include all the limitations of claim 1. Accordingly, Applicants request the withdrawal of the rejection of claims 6, 8 and 10.

Conclusion

In light of the foregoing, reconsideration and allowance of the claims is hereby earnestly requested.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

Applicant respectfully petitions for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

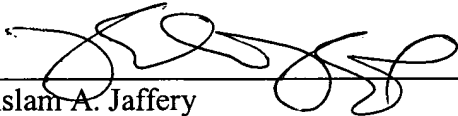
Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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Date: August 8, 2006


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